

CITY AUDITOR'S OFFICE



AUDIT OF WASTEWATER POLLUTION CONTROL FACILITY AND SEWER SERVICES

Report No. CAO 1501-0102-02

August 8, 2001

RADFORD K. SNELDING, CPA, CIA, CFE

CITY AUDITOR



MAYOR
OSCAR B. GOODMAN

CITY COUNCIL
GARY REESE
(MAYOR PRO-TEM)
MICHAEL J. McDONALD
LARRY BROWN
LYNETTE B. McDONALD
LAWRENCE WEEKLY
MICHAEL MACK

CITY MANAGER
VIRGINIA VALENTINE

August 8, 2001

Mayor Oscar B. Goodman
Councilman Gary Reese (Mayor Pro-Tem)
Councilman Michael J. McDonald
Councilman Larry Brown
Councilwoman Lynette Boggs McDonald
Councilman Lawrence Weekly
Councilman Michael Mack
City of Las Vegas Audit Committee

Subject: CAO 1501-0102-02 - Audit of Wastewater Pollution Control
Facility and Sewer Services

Attached please find the report mentioned above. Management comments
are included in the report.

Sincerely,

A handwritten signature in dark ink, appearing to read "Radford K. Snelding", is written over a horizontal line.

Radford K. Snelding, CPA, CIA, CFE
City Auditor

CITY AUDITOR'S OFFICE

CITY AUDITOR
RADFORD K. SNELDING
CIA, CPA, CFE

CITY OF LAS VEGAS
400 STEWART AVENUE
LAS VEGAS, NEVADA 89101

VOICE 702.229.2472

FAX 702.386.9252

TDD 702.386.9108

www.ci.las-vegas.nv.us

EXECUTIVE SUMMARY

AUDIT OF WASTEWATER POLLUTION CONTROL FACILITY AND SEWER SERVICES REPORT CAO 1501-0102-02

The purpose of the executive summary is to convey the significant issues of the audit report. The executive summary is a vehicle for reviewing the report and should be used in conjunction with the entire report.

INTRODUCTION

The City Auditor's Office conducted an operational audit of the City's Wastewater Pollution Control Facility and the Sewer Services Unit. The audit was conducted to determine the adequacy of internal and system controls and the effectiveness of current practices of these divisions.

OVERVIEW OF SIGNIFICANT ISSUES

We believe the City's Wastewater Pollution Control Facility and the Sewer Services Unit are generally performing their duties and responsibilities adequately and effectively.

However, our audit did identify areas that management should review to further improve efficiency, effectiveness, and internal controls over operations. Our report includes the following issues:

- The City is not charging adequate fees to North Las Vegas (NLV) to cover the costs of treating their wastewater.
- The NLV wastewater treatment contract file is incomplete.
- The rate being charged to several area golf courses and Nevada Power for reclaimed water is significantly lower than the City's cost to produce reclaimed water.
- Over 1,200 residents live within 400 feet of the City's sewer lines and are not connected to the system.
- The sewer billing process is confusing to customers.
- The grace period available to sewer customers is excessive.

INDEX

EXECUTIVE SUMMARY	1
INDEX.....	2
OBJECTIVES	3
SCOPE AND METHODOLOGY	3
BACKGROUND.....	3
CONCLUSIONS/ FINDINGS/ RECOMMENDATIONS.....	4
 WASTEWATER POLLUTION CONTROL FACILITY ISSUES.....	 4
1. North Las Vegas Wastewater Treatment Fees	4
2. Contract File Maintenance	5
3. North Las Vegas Wastewater Data	6
4. Reclaimed Water Rates	7
5. WPCF Operational Performance Results.....	8
 SEWER SERVICES ISSUES.....	 9
1. Sewer Connection Regulations	9
2. Sewer Fee Billings	10
3. Grace Period.....	11
4. Performance Reports	12

**AUDIT OF WASTEWATER POLLUTION CONTROL FACILITY
AND SEWER SERVICES
REPORT NO. CAO 1501-0102-02**

OBJECTIVES

We have completed an audit of the City's Wastewater Pollution Control Facility (WPCF) and Sewer Services Unit (Sewer Services). This audit was part of the annual audit plan of the City Auditor's Office. Our audit objectives included the following:

- ▶ Ascertain whether the utilization of resources is efficient and effective.
- ▶ Determine whether goals and objectives are being met.
- ▶ Review compliance with contracts, laws, and regulations.

SCOPE AND METHODOLOGY

Our audit was performed in accordance with generally accepted governmental auditing standards. The scope of the study of internal controls was limited to assessing the general controls surrounding the specific issues addressed. General audit procedures included:

- ▶ Interviewing personnel;
- ▶ Benchmarking;
- ▶ Observing operations; and
- ▶ Reviewing records, reports, and other applicable documentation.

BACKGROUND

The WPCF treats wastewater with a staff of 115 employees. In addition to treating the City's wastewater, the WPCF treats the wastewater of the city of North Las Vegas (NLV) under an agreement that originated in 1981.

The City's sewer system consists of 1,305 miles of sanitary sewers and 254 miles of storm sewers. The maximum processing capacity of the WPCF is 66 million gallons of wastewater per day (mgd). The facility currently treats an average of 60 mgd. Due to the City's growth, capacity at the facility will be exceeded within 3 years.

The WPCF is currently implementing a *Staffing and Organization Plan for Water Pollution Control Facilities* to improve its operations, remain competitive with private industry, and increase capacity without adding personnel. In addition, the City is constructing additional water treatment facilities at an estimated cost of \$98 million to increase its wastewater treatment

May 25, 2001

capacity to 91 mgd. The City is also constructing facilities at a cost of \$43 million that will provide reclaimed water (highly treated wastewater suitable for irrigation) to several area golf courses and parks. The City will be spending approximately \$12 million on odor control projects at its facilities over the next two years.

Sewer Services bills and collects sewer service fees. As of June 1999, there were 129,031 sewer connections in the City. Sewer fees for residential customers are \$140.43 annually, while sewer fees for businesses are based on the nature of the business and the number of “fixtures” (i.e., toilets, sinks, etc.). Sewer Services is currently implementing a new sewer data system that should further improve customer service and staff productivity.

The City recently hired a consulting firm to evaluate the adequacy of the City’s sewer rates and its billing methodology.

CONCLUSIONS/ FINDINGS/ RECOMMENDATIONS

The City Auditor’s Office appreciates the courtesy and cooperation extended to us by city employees during the audit. We believe the City’s Wastewater Pollution Control Facility and the Sewer Services Unit are generally performing their duties and responsibilities adequately and effectively. However, we have identified some issues that management should review and address to further improve operations. These issues are summarized in the following sections.

WASTEWATER POLLUTION CONTROL FACILITY ISSUES

1. North Las Vegas Wastewater Treatment Fees

Criteria: Fees for providing services to customers should at a minimum offset the related costs associated with the service.

Condition:

- ▶ The wastewater treatment fees charged by the City to NLV are based on established rates within an agreement. These fees are used to cover wastewater treatment costs, facility maintenance, and capital expenditures.
- ▶ NLV wastewater accounts for an average of 23% of the wastewater treated by the City.
- ▶ Over the past three years, NLV has only paid approximately 17% of the City’s cost of wastewater treatment. The City subsidized NLV’s wastewater treatment cost approximately \$3.4 million during this period.
- ▶ Over the past two and a half years, NLV has paid \$8,234,050 for facility maintenance and capital expenditure costs. Public Works could not provide sufficient supporting data to determine the equity of NLV’s payments for the cost of plant expansion and deterioration.

May 25, 2001

Effect:

- ▶ NLV is not paying a proportionate share for the treatment of its wastewater.
- ▶ NLV's contributions to capital expenditures and plant deterioration costs may not be equitable.

Cause:

- ▶ The agreement with NLV is not being adequately managed.

Recommendations:

1. Public Works and Finance should more effectively manage its agreement with NLV.
2. Finance should evaluate NLV's contributions to capital expenditures and plant deterioration costs to insure equity.
3. Finance should renegotiate the rates being charged to NLV to cover the costs associated with treating their wastewater, facility maintenance, and allocable capital expenditures.
4. Public Works should consider developing a contract review committee to monitor significant contracts.

Management Plan of Action: Staff concurs with the reported condition that the ERU calculations of the city of North Las Vegas (NLV) do not seem to adequately reflect their volume of wastewater. In the fall of 2000, the city of Las Vegas (LV) began negotiations with NLV to resolve these issues. Subsequently, the Finance and Public Works Departments of LV and NLV have reached an agreement in principal that the operating and capital costs of the Wastewater Pollution Control Facility (WPCF) should be shared on the percentage of flow rather than an ERU basis. Capital costs (both debt and cash financed) will be amortized over 20 years and combined with the annual operating costs to determine the shared costs downstream from the NLV interceptor. Additional triggers need to be negotiated for potential variations in the strength of the wastewater, as well as other possible developments such as the construction of water reclamation facilities by NLV. Public Works will meet with Finance to develop a contract review committee and decide what significant contracts need to be monitored and how to do that.

Timetable: Staff expects to finalize the new agreement by July 31, 2001. Public Works and Finance will develop a committee or similar such work group and decide on contract monitoring by December 2001.

2. Contract File Maintenance

Criteria: Contract files should include original agreements, amendments to agreements, record of payments, and correspondence.

Condition:

- ▶ City staff could not locate documentation supporting the current wastewater treatment rates being charged to NLV.

May 25, 2001

Effect:

- ▶ Lack of supporting documentation.
- ▶ Potential billing errors.
- ▶ Potential contract disputes.

Cause:

- ▶ Lack of appropriate maintenance of contract files.

Recommendations:

1. Finance should obtain copies of missing documentation for the contract file.
2. Finance and Public Works should establish and document procedures to insure contract files are complete and properly maintained.

Management Plan of Action: The Budget & Finance Division maintains the contract files for the purpose of billing NLV under the current interlocal agreement. While true that the correspondence notifying NLV of the last rate change in 1993 cannot be located, it is also true that CLV has been billing the proper rate and NLV has been paying the proper rate during that time. Budget & Finance will make a reasonable effort to retrieve a copy of that correspondence from NLV, if it exists. The Budget & Finance Division is unaware of any other missing billing documentation. As part of the recommendation from Section 1 Part 4 above, Public Works and Finance will form a work group to monitor contracts. This group can develop procedures to ensure maintenance of contract files.

Timetable: December 2001

3. North Las Vegas Wastewater Data

Criteria: The City should verify contract billing data.

Condition:

- ▶ The NLV wastewater treatment contract states that NLV is responsible for providing certain wastewater data monthly and quarterly to the City and that the City is to be notified and be permitted to have a representative present when data is being gathered.
- ▶ The City utilizes this information to calculate billing data.
- ▶ A representative of the City is not present when NLV collects wastewater data.

Effect:

- ▶ Potential billing errors.

Cause:

- ▶ A city representative is not present to observe the gathering of wastewater data by NLV.
- ▶ Management has not adequately considered the risk of not being present when NLV collects wastewater data.

May 25, 2001

Recommendation:

1. A city representative should be present and document wastewater data collected by NLV.

Management Plan of Action: The city of North Las Vegas collects composite samples of their effluent (influent to our system) at two outfalls on seven consecutive days each quarter. As previously recommended in our audit visits, the city of Las Vegas Environmental Division now oversees this sampling. The Environmental Division Laboratory actually performs the analysis on the samples so that data is determined by the City. The City rejected the last two quarterly samples because North Las Vegas had changed their sampling techniques and the resulting data was obviously low. They have since changed their sampling techniques with advice from our staff. If we had accepted the results it would have resulted in a loss of over \$400,000 in revenue from October 2000 through March 2001.

For flow measurements, city of North Las Vegas personnel record daily readings, electronically transferred via phone lines, from the flow measuring devices at the two outfalls. ADS Environmental Services maintains and calibrates these devices. North Las Vegas recently hired MGD Technologies to independently verify the calibration of these devices. The results of these checks are not yet available. City of Las Vegas Environmental Division personnel will verify the flow readings with North Las Vegas personnel on a monthly basis.

Timetable: Accomplished

4. Reclaimed Water Rates

Criteria: Fees for providing services to customers should at a minimum offset the related costs associated with the service.

Condition:

- ▶ The City provides reclaimed water from existing facilities to several area golf courses for irrigation and to Nevada Power for use in its power plant.
- ▶ The rate being charged to these organizations for reclaimed water (average of \$.27 per thousand gallons) is significantly lower than the City's cost to produce reclaimed water (estimated to be \$1.25 per thousand gallons).
- ▶ The rate being charged to these organizations for reclaimed water is significantly lower than the rate being charged by the city of Henderson (\$.90 per thousand gallons).

Effect:

- ▶ The City is not recovering its costs to produce reclaimed water.

Cause:

- ▶ The cost of producing reclaimed water has increased since original agreements.

May 25, 2001

- ▶ Management has not adequately assessed the rates that should be charged for reclaimed water.
- ▶ Reclaimed water rates have not been adjusted as a percentage of potable water rates as done by other municipalities.

Recommendations:

1. Public Works should perform a cost analysis of providing reclaimed water.
2. Where possible, current contractual rates for reclaimed water should be adjusted at a minimum to cover related costs.
3. Future reclaimed water contract rates should at a minimum cover related costs and include provisions for rate changes.

Management Plan of Action: 1&2. We have no disagreement that today treated wastewater has a market value as a commodity and at a minimum we should seek to recover our total treatment costs, however, in the recent past it was viewed more as a waste product to be disposed of in the most cost efficient manner possible. Many of the agreements now in place reflect that early philosophy. A September 3, 1997 study by HDR Engineering reported that the City would be able to avoid additional treatment costs of up to \$340,000 per year (\$0.26/1000 gallons) required for discharge to the Las Vegas Wash if instead the water was treated to a lower standard and used for golf course irrigation. In addition the City projected sales of this water at the contract rate would yield additional income of approximately \$400,000 per year. With the changing market for reclaimed wastewater we agree that the contract rates should be reexamined and will consult with the City Attorney's Office to discuss options for renegotiating rates in existing long-term contracts. New agreements for recycled water will include a cost analysis to determine appropriate rates for total cost recovery. For example, recently established rates for the City's new Northwest Water Resources Center are designed to totally recover operating and capital costs to provide reclaimed water for golf course use. 3. Agreed.

Timetable: Public Works will contact and work with the City Attorney's Office and have a response by December 2001.

5. WPCF Operational Performance Results

Criteria: Operational performance results to management should be complete, timely, and accurate.

Condition:

- ▶ The WPCF submits a monthly performance report to city management by the eighth of each month.
- ▶ Financial performance results in this report are not final amounts, as the City's books are not typically closed until after the eighth of each month.
- ▶ The cost of wastewater treatment is typically overstated, as encumbrances are inappropriately included in the calculation.

May 25, 2001

Effect:

- ▶ Operational performance results reported to management are inaccurate.

Cause:

- ▶ Deadline for submission of performance report is prior to the availability of final financial balances.
- ▶ Incorrect calculations by staff.

Recommendations:

1. The deadline for submission of operational performance results should be delayed until after the books are closed each month.
2. The calculation of the actual cost of wastewater treatment should not include encumbrances.

Management Plan of Action: 1. This is a city-wide issue in that the City Manager's office requests performance reports each month from all Departments. Any measurement including financial information will not be up to date for the previous month at the beginning of the next month. Public Works will inform the City Manager's office of the inaccuracy of the reports and ask if they would like the report dates to change. We will do this prior to July 1, 2001. 2. The Environmental Division has already changed our reporting parameters to show the cost of wastewater treatment with and without encumbrances.

Timetable: See above.

SEWER SERVICES ISSUES

1. Sewer Connection Regulations

Criteria: City rules and regulations should be clearly defined and enforced.

Condition:

- ▶ The Nevada Administrative Code (NAC) and Nevada Revised Statute (NRS) state that septic tank permits should not be issued to property owners within 400 feet of a city sewer system.
- ▶ Approximately 1,250 residences are within 400 feet of the City's sewer system but not connected. Most of these residences have septic tanks that were installed prior to the sewer lines coming within 400 feet of their property.
- ▶ The City has not established and enforced clear guidelines outlining when a residence must connect to the City's sewer system and the ramifications of non-compliance.

Effect:

- ▶ Potential soil and groundwater contamination should septic tanks fail.
- ▶ Lost revenues (\$1.5 million in one-time sewer connection fees and \$175,000 in annual sewer service fees).

May 25, 2001

- ▶ The City does not have the authority under current regulations to force these property owners to connect to its sewer system.

Cause:

- ▶ Connection to the City's sewer system is costly for property owners.
- ▶ Management has not adequately addressed this issue.

Recommendation:

1. Public Works should further study this issue and prepare a report summarizing the issue and a course of action to follow in establishing clear guidelines on when a property owner must connect to the city sewer system and the penalties for non-compliance.

Management Plan of Action: The Public Works Department will study this issue and prepare a report.

Timetable: December 2001

2. Sewer Fee Billings

Criteria: Billing guidelines should be clearly defined and easily understood by customers. The billing process should be completed in an efficient and effective manner.

Condition:

- ▶ The City's sewer billing policies and late payment penalties are based on an annual billing cycle. However, customers can elect to make quarterly payments towards their annual sewer fee.
- ▶ If a customer elects to make quarterly payments, quarterly statements follow the annual statement until the annual sewer fee is paid in full.
- ▶ Approximately 60% of sewer service customers make quarterly sewer payments. Approximately 10% of these payments are received late.
- ▶ Once a customer is delinquent on a payment, a late fee of 10% is charged against the total unpaid balance rather than the quarterly payment, the total unpaid balance becomes due in full, and a lien is established against the property.
- ▶ The City receives many phone calls from sewer customers confused about why they are being charged a late payment penalty against the total annual fee and why the fee is suddenly due in full.

Effect:

- ▶ Angry sewer customers.
- ▶ Additional work for Sewer Services staff.

May 25, 2001

Cause:

- Sewer Services has not adequately addressed the issues that exist with its current billing and penalty assessment practices.

Recommendations:

1. Sewer Services management should change the sewer services billing to a quarterly billing cycle and adjust the penalty policies to align with this change.
2. Certain local governments outside of Nevada have gained billing efficiencies by incorporating sewer fees into annual property taxes. Sewer Services should evaluate the legalities and cost/benefits of including sewer fees in property taxes.

Management Plan of Action: The Business Services Division (BSD) is recommending a proposed Municipal Code change to a quarterly billing cycle where the penalty fee would be assessed on the outstanding balance for the quarter rather than the unpaid balance of the bill. These code changes are projected for implementation around October 2001.

Regarding the incorporation of sewer fees into annual property taxes, we do not believe it is economically or operationally feasible at this time. We estimate that our cost to perform the billing function (including treasury, technology, sewer billing, and mail room support) does not exceed \$250,000 annually. Obviously, this cost is passed on to the property owners in the form of sewer rates. The Nevada Revised Statutes (NRS) would need significant revision to allow the County to include routine City sewer bills with the property tax. Such a change would also require a change in the City billing cycle which is currently based on the start of service, not on the fiscal tax year. Since the NRS currently provides for a 4 percent surcharge by the County Treasurer for the delinquent sewer service charges it collects on the annual property tax roll, it is difficult to imagine they would be willing to handle all sewer billings for less than that statutory rate. Note that this 4 percent fee is passed on to the property owner. If all charges were billed through the County Treasurer, their estimated fees would approach \$1.5 million, far exceeding what the property owners currently pay for City billing service. The City would still be responsible for inspections and customer service inquiries, functions that the County will not be able to execute. Consequently, the Business Services Division does not see an advantage for the rate-payer in using the County Treasurer for all billings at this time.

Timetable: These code changes are projected for implementation around October, 2001.

3. Grace Period

Criteria: Payment deadlines should be clearly defined for customers and a grace period (period subsequent to the payment deadline before late payment penalties are assessed), if any, should be minimal.

May 25, 2001

Condition:

- ▶ Utilities in the Las Vegas valley have on average 10-day grace periods.
- ▶ The City allows sewer customers a grace period of 30 days before assessing a 10% late payment penalty.

Effect:

- ▶ Lost interest revenue.

Cause:

- ▶ Management has not adequately considered the benefits of a shorter grace period.

Recommendation:

1. Sewer Services should reduce or eliminate the grace period allowed for sewer service payments.

Management Plan of Action: The BSD is recommending a proposed Municipal Code change to reduce the grace period from 30 days to 15 days and increase the penalty amount on delinquent accounts from 10% to 15%. This would be consistent with the grace period and penalty amounts assessed on business license accounts in BSD.

Timetable: Projected code change implementation is August 1, 2001.

4. Performance Reports

Criteria: Performance reports should include all necessary data for management to properly evaluate operations.

Condition:

- ▶ Sewer Services generates a *Weekly Task Log* that summarizes various activity data of the Unit.
- ▶ While this report provides useful data, it lacks certain information that would be beneficial for management such as the following:
 - Anticipated monthly commercial and residential sewer fee collections
 - Percentage of commercial and residential customers whose accounts are current
 - Data regarding delinquent accounts
 - Data on delinquent account collection efforts

Effect:

- ▶ Management may not have sufficient information to properly evaluate operations.

Cause:

- ▶ Upper management has not requested additional performance data.

May 25, 2001

- Certain information is not easily accessible from the sewer service system, while other data is simply not being tracked.

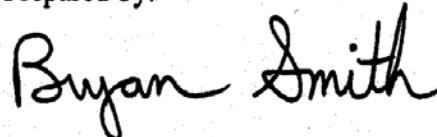
Recommendations:

1. Sewer Services should create a monthly performance report with additional performance data needed by upper management.
2. For information that is not easily accessible from the sewer service system, Sewer Services should work with Information Technologies to access this data.

Management Plan of Action: As mentioned, the BSD anticipates converting the current sewer billing system to the Oracle-based Hansen Industries system. The new system, fully integrated with the planning, building inspection, public works, business licensing, and finance functions, will allow for the creation of many different management reports. In order to best allocate personnel resources (both BSD and Information Technology), no changes will be made to the legacy system, but rather the improved management reports will be focused on the new Hansen system when it is brought up in late Fall, 2002.

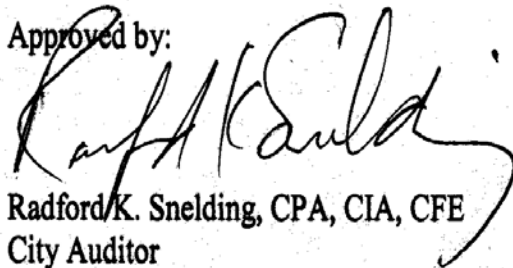
Timetable: See above.

Prepared by:



Bryan Smith, CPA
Internal Auditor

Approved by:



Radford K. Snelding, CPA, CIA, CFE
City Auditor